

Isotopes Project

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The Isotopes Project compiles, evaluates, and disseminates nuclear structure and radioactive decay data for basic and applied research. The group coordinates its activities with both the national and international data networks and plays a major leadership role in the U.S. Nuclear Data Program (USNDP). The traditional strong data evaluation effort of the group continues. The Isotopes Project has also become a lead data center for the development of electronic dissemination and new publication methods for nuclear data. This annual report period has been particularly productive with the completion of several major projects:

- Published evaluations for ^{170}Lu , ^{170}Ta , and ^{179}Ir , and $A = 89, 135, 176, 192$ in Nuclear Data Sheets
- Leadership of USNDP Working Group on Data Dissemination
- Hosted meeting of USNDP Program Heads (March, 1998)
- Maintained and updated user-friendly Internet web sites for high-spin data, nuclear astrophysics, neutron capture data, spontaneous fission data, Nuclear Science References; >4000 users/month
- Demonstrated developments and new access capabilities to data for the research community at professional meetings

New research priorities present special opportunities and challenges for the nuclear data program. Three particular areas of opportunity are: nuclear astrophysics, where there is a need for the collection and dissemination of laboratory and theoretical nuclear astrophysics data; critically evaluated decay data for the basic and applied research communities; high-spin research, where large detector arrays are producing data at tremendous rates. The Isotopes Project has increased evaluation and dissemination efforts in these new areas while also continuing its traditional mass-chain and nuclide evaluations. Together with groups from the University of California at Santa Cruz, Lawrence Livermore National Laboratory, Oak Ridge National Laboratory, Los Alamos National Laboratory, and Argonne National Laboratory, the Isotopes Project has submitted a proposal to the Department of Energy requesting support for the establishment of a refereed nuclear astrophysics data archive. The Isotopes Project also is making significant progress in exploiting the capabilities of the Internet.

The Isotopes Project will continue its leading role in data evaluation and dissemination. Development of Internet data dissemination will be a major activity. The goal is to distribute data to the research community using convenient and effective formats, so that the information can be utilized for the advancement of science and technology.